TBD03 – (Part 03) Carbohydrates

Name _____

1. B.3.1 Describe the structural features of monosaccharides. (2)

   - What is the difference between an aldose and a ketose, and where do those names originate from?

   - Give an example of an aldose and a ketose:

   - What are the chemical formulas for glucose and fructose?

2. B.3.2 Draw the straight-chain and ring structural formulas of glucose and fructose. (1).

	Glucose	**Fructose**
Straight Chain		
Ring		

3. B.3.3 Describe the condensation of monosaccharides to form disaccharides and polysaccharides. (2)

   - How are monosaccharides joined?

   - What are the three most common disaccharides?

   - Draw each of the three, note how they differ.

- What are the three most common polysaccharides, where are they found?
  1.
  2.
  3.

4. B.3.4 List the major functions of carbohydrates in the human body. (1)
   -
   -
   -

5. B.3.5 Compare the structural properties of starch and cellulose, and explain why humans can digest starch but not cellulose. (3) *think in terms of bonding, repeating units, structure, function, solubility, state, linkages, etc*

	Differences	**Similarities**
Starch		
Cellulose		

- What is cellulase?

6. B.3.6 State what is meant by the term dietary fiber. (1)

7. B.3.7 Describe the importance of a diet high in dietary fiber. (2)

   - What is the importance of dietary fiber?

   - What can it help prevent (briefly describing each)?